Notice of Allowability	Application No.	Applicant(s)	
	10/034,295	WEINTROUB ET AL.	
	Examiner	Art Unit	
	Nelson D. Hernandez	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendments filed on March 30, 2007*.

2. ☒ The allowed claim(s) is/are *1,3 and 5-19*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

VIVEK SRIVASTAVA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

DETAILED ACTION

Response to Amendment

1. The Examiner acknowledges the amended claims filed on March 30, 2007. **Claims 1, 6, 7, 15-17 and 19** have been amended. **Claims 2 and 4** have been canceled.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Donald F. Mofford on June 5, 2007.

The application has been amended as follows:

Claim 5. (Currently Amended) A lens focusing system comprising:

a lens in a field of view of an image detector;

a mechanism to move the lens;

a compression engine, responsive to the image detector, to provide a first compressed data file having a file size at a first instance of time and a second compressed data file having a file size at a second instance of time; ~~and~~

a digital processor to compare the file size of the first and the second compressed data files ~~each file~~ and to provide a control signal to the mechanism ~~motor~~ to move the lens in the direction of the ~~to a~~ position that creates the largest compressed data file; and

wherein the compression engine provides a third compressed data file having a file size at a third instance of time and the digital processor compares the file size of the third compressed data file with the previous compressed data file having the largest file size and provides a control signal to the mechanism to move the lens in the direction of the position providing the larger size to focus the lens.

Claim 7. (Currently Amended) An automatic focusing system for a camera comprising:

a lens;

a driver that drives said lens along an optical axis of said lens;

a detector that receives an optical image through said lens and outputting signals indicative of said received optical image at an instance of time;

a processor that processes said signals to provide a first and second digital signal indicative of the respective optical image and to compress said digital ~~signal~~ signals to provide a respective first and second compressed digital signal, ~~to provide a~~ each having a size signal indicative of the size of the respective compressed digital signal; and

a controller that controls said driver to locate said lens at a position where said size signal becomes greatest and wherein the processor provides a third digital signal and compresses said third digital signal to provide a third compressed digital signal and the controller controls the driver to move the lens in the direction of the position providing the largest size signal.

Claim 19. (Currently Amended) A range finder comprising:

a lens having a plurality of predetermined positions with corresponding ranges;

a driver that drives said lens along an optical axis of said lens;

a detector that receives an optical image through said lens and outputting signals indicative of said received optical image at an instant of time;

a processor that processes said signals to provide a first and second digital signals indicative of ~~the~~ a respective optical image and to compress said ~~digital~~ signals to provide a first and a second compressed digital signal, ~~to provide~~ each having a respective size signal indicative of the size of the compressed digital signal; and

a controller that controls said driver to ~~locate~~ move said lens at a position where said size signal becomes greatest wherein said processor provides a third digital signal and compresses said third digital signal to provide a third compressed digital signal having a respective size signal and said controller locates the lens to a position where the size signal is maximized, said position corresponding to a specific range.

Allowable Subject Matter

3. Claims 1, 3 and 5-19 are allowed.

4. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the main reason for indicating allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the elements of the present claim, capturing at least a portion of an image in a field of view to provide a third digital image at a third instance of time; digitally compressing the third digital image to provide a third compressed file having a file size; and comparing the file size of the third compressed file with the previous compressed file to determine which digital image is best focused.

Regarding claim 5, the main reason for indicating allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the elements of the present claim, that the compression engine provides a third compressed data file having a file size at a third instance of time and the digital processor compares the file size of the third compressed data file with the previous compressed data file having the largest file size and provides a control signal to the mechanism to move the lens in the direction of the position providing the larger size to focus the lens.

Regarding claim 6, the main reason for indicating allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the elements of the present claim, capturing a third image and digitally compressing and storing the data; and comparing the size of the data file of the third image with the size of the data

file of the previous image that provided the largest data file and moving the lens in the direction of the position providing the larger file size.

Regarding claim 7, the main reason for indicating allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the elements of the present claim, that the processor provides a third digital signal and compresses said third digital signal to provide a third compressed digital signal and the controller controls the driver to move the lens in the direction of the position providing the largest size signal.

Regarding claim 15, the main reason for indicating allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the elements of the present claim, moving the lens to still another one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size until the file size is maximized; and fixing the lens within the unit under test at the position that provides the maximum file size to focus the lens.

Regarding claim 16, the main reason for indicating allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the elements of the present claim, capturing additional images of the test target with the sensor and segmenting the additional images into regions corresponding to the regions of the object plane and successively compressing the digital image corresponding to each region and recording the relative size of the compressed image for each region; and

adjusting the location of the sensor relative to the lens to set axial and tilt adjustments such that the relative size of the compressed image for each region is maximized.

Regarding claim 17, the main reason for indicating allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the elements of the present claim, moving the tens to still another position; capturing a portion of a third image passing through the lens and digitally compressing and recording the size of the resulting data file; and comparing the size of the data file of the third image with the size of the data file of the previous image having the largest data file size to determine which lens position provides a larger file size to focus the lens.

Regarding claim 19, the main reason for indicating allowable subject matter is because the prior art fails to teach or reasonably suggest, including all the elements of the present claim, that the processor provides a third digital signal and compresses said third digital signal to provide a third compressed digital signal having a respective size signal and said controller locates the lens to a position where the size signal is maximized, said position corresponding to a specific range.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact

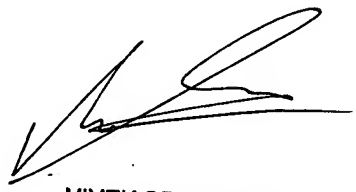
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:30 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nelson D. Hernandez
Examiner
Art Unit 2622

NDHH
June 5, 2007



VIVEK SRIVASTAVA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600